IP MULTIMEDIA SUBSYSTEM (IMS) IMPLEMENTATION FOR DIALOG TELEKOM

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The Dissertation was submitted to the Department of Management of Technology of the University of Moratuwa in partial fulfillment of the requirement for the Degree of Master of Business Administration.

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DECLARATION

I certify that this thesis does not incorporate any material from previously submitted thesis or publications without proper acknowledgement. Wherever applicable, the required references are made available. I hereby kindly request from Department of Management of Technology, not to make this thesis available for references due to the nature of confidential information related to Dialog Telekom.

..... 02/02/2009

Signature of the Researcher Date

I assure that above details are true and accurate to the best of my knowledge.

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ABSTRACT

Sri-Lanka telecommunication sector consists of four licensed fixed line service providers and five mobile service providers. As per statistics published by Sri-Lanka Telecommunication Regulatory Commission (TRCSL), the mobile penetration level is reaching closer to 40% of the population, and the competition in this sector is intensifying day by day due to increased adoption of technologies, mergers, acquisitions and new entrants.

Dialog Telekom as the market leader is fighting an intense battle in a highly competitive environment and the company needs creative and innovative solutions to retain its market leadership position.

In a highly competitive market with reducing voice revenue, new value added services are the key business drivers for new revenue streams and to sustain the competitive advantages. IP multimedia Subsystem (IMS) is becoming increasingly popular as the architecture of choice for delivering multimedia based new value added services and promises to deliver many strategic advantages to service providers to remain competitive in a highly dynamic and competitive environment.

In light of the above, this research is focused on identifying strategic advantages of IMS to Dialog Telekom, user acceptance of IMS services, and potential barriers for implementation and finally formulating strategies for the implementation of IMS.

The literature review revealed that IMS can deliver many strategic advantages such as new features, capital and operational expenditure reduction, reduced time to market for new features and converged service offering etc. The results of the user acceptance survey revealed that user acceptance of IMS related new value added services are at a high level. Further, it was revealed that worldwide, there are many ongoing IMS trials and early adopters of IMS claim that IMS would enable operators to rapidly create and introduce compelling new multimedia services that will drive up service revenues by reducing churn.

Interview with senior management team revealed that Dialog Telekom has a positive attitude towards IMS, and it is the reason behind the recently concluded IMS trial. The interview with IMS trial implementation team provided an opportunity to identify potential barriers for implementation – issues related to technology, financial, regulatory, and marketing and human resources.

The financial analysis revealed that long term benefits of IMS outweigh the cost of implementation, when IMS implementation is considered over a horizon of at least five years.

Based on the feedback obtained from the user acceptance survey, literature survey, interview with Dialog Telekom staff and financial analysis, step wise implementation is recommended with a minimum initial investment, focusing on fixed domain first and subsequently on mobile domain. In the final stage it is recommended to focus on delivering converged services. The strategies for implementation were formulated based on the above approach.

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ABBREVIATIONS

3G	3rd Generation
3GPP	3rd Generation Partnership Project
3GPP2	3rd Generation Partnership Project 2
4G	4th Generations
AIR	Automatic International Roaming
ARPU	Average Revenue Per User
BT	British Telecom
CAPEX	Capital Expenditure
CDMA	Code Division Multiple Access
CSCF	Call Session Control Function
DTP	Dialog Telekom PLC.
EDGE	Enhance Data for GPRS Evolution
ETSI	European Telecommunications Standards Institute
FMC	Fixed Mobile Convergence
GPRS	General Packet Radio System
GSM	Global System for Mobile
HSDPA	High Speed Downlink Packet Access
HSPA	High Speed Packet Access
HSS	Home Subscriber Service
IETF	Internet Engineering Task Force
IOT	Inter Operability Tests
IMS	Internet Protocol Multimedia Subsystem
IP	Internet Protocol
ITU	International Telecommunication Union
Mbps	Mega bits per second
MIS	Management Information Systems
MGC	Media Gateway Controller
MNP	Mobile Number Portability
MMS	Multi-Media Messaging
OMA	Open Mobile Alliance
OPEX	Operational Expenditure

PLC	Public Limited Company
PoC	Push-To-Talk over Cellular
PM	Project Manager
SIM	Subscriber Identification Module
SIP	Session Initiation Protocol
SMS	Short Messaging Service
SLT	Sri-Lanka Telecom
TAM	Technology Acceptance Model
TISPAN	Telecommunications and Internet converged Services and Protocols for Advanced Networking
TRCSL	Telecommunication Regulatory Commission of Sri-Lanka
TPL	Technical Project Leader
UMTS	Universal Mobile Telephony System
VAS	Value Added Services
VoIP	Voice over Internet Protocol
WAP	Wireless Application Protocol
WCDMA	Wideband Code Division Multiple Access
Wi-MAX	Worldwide Interoperability for Microwave Access